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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,943	07/21/2000	Robert Keller	TI-30714	4054
23494	7590	06/02/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			BELLO, AGUSTIN	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2613	

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/620,943

Applicant(s)

KELLER ET AL.

Examiner

Agustin Bello

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3,5,6 and 18-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-3, 5-6 and 18-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2-3, 5-6 and 18-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wissinger (U.S. Patent No. 5,592,320) in view of Carlson (U.S. Patent No. 6,304,354).

Regarding claim 18 and 23, Wissinger teaches a transmitter (Figure 2) comprising a source generating a light beam (reference numeral 26 in Figure 2) for transmitting information, said transmitter being pointed in a general direction of a remote receiver, a moveable micromirror (reference numeral 58 in Figure 5) in said transmitter and being in a path of said light beam for receiving said light beam to impinge on a photodetector in said remote receiver; a beam positioner consisting essentially of a controller (reference numeral 20, 39 in Figure 2) responsive to the position of the light in the remote receiver for controlling orientation of said micromirror (reference numeral 58 in Figure 5) so that said light beam is reflected onto said photodetector and further comprising a control loop (e.g. loop created between elements 38, 39 of Figure 2) coupled between said controller (reference numeral 20, 39 in Figure 2) and said remote receiver for providing a control signal to said controller for controlling said micromirror orientation, said control loop being independent of said optical link. Wissinger differs from the claimed invention in that Wissinger fails to specifically teach that the light generated by the source is a collimated light. However, Carlson, in the same field of optical communication,

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teaches that the use of collimated light is well known in the art. One skilled in the art would have been motivated to employ collimated light as taught by Carlson in order to eliminate the need for relay elements such as those taught by Wissinger (column 1 lines 49-55 of Carlson). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ a light source, such as that taught by Carlson, in the device of Wissinger to produce a collimated light beam.

Regarding claim 19 and 28, the combination of Wissinger and Carlson teaches a circuit (reference numeral 42 in Figure 2 of Wissinger) in said transmitter for modulating said collimated light beam in accordance with a data signal and a demodulation circuit (reference numeral 34, 36, 38 in Figure 2 of Wissinger) in said remote receiver for recovering said data signal.

Regarding claim 20, the combination of Wissinger and Carlson teaches that said control loop comprises a circuit (reference numeral 39 in Figure 2 of Wissinger) for detecting the incidence of said collimated light beam on said photodetector and generating a detection signal and wherein said detection signal is said control signal coupled to said controller by said control loop (e.g. the output of reference numeral 39 in Figure 2 of Wissinger to reference numeral 20 in Figure 2 of Wissinger) .

Regarding claim 21 and 29, the combination of Wissinger and Carlson teaches that said source generating a collimated light beam comprises a VCSEL laser diode (column 12 lines 7-8 of Carlson).

Regarding claim 22, the combination of references differs from the claimed invention in that it fails to specifically teach encoding and decoding the data according to an Ethernet

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protocol format. However, the Ethernet protocol is well known in the art. One skilled in the art would have been motivated to employ an Ethernet protocol format since it reduces the number of data collisions and retransmissions. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to employ an Ethernet protocol form in the device of the combination of references.

Regarding claim 2 and 24, the combination of Wissinger and Carlson teaches that said micromirror comprises a single two axis rotatable mirror (reference numeral 52 in Figure 5 of Wissinger) capable of reflecting light in any orientation within a predetermined field of view.

Regarding claim 3 and 25, the combination of Wissinger and Carlson teaches that said micromirror comprises a plurality of mirrors (reference numeral 58, 59 in Figure 5 of Wissinger), each capable of being rotated in a single axis, capable of reflecting light in any orientation within a predetermined field of view.

Regarding claims 5, 6, 26 and 27, fabrication of a micromirror from either of these materials would have been obvious to one skilled in the art. Official Notice is given that fabrication of a mirror from either of these material is well known in the art.

### ***Response to Arguments***

3. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB

  
**AGUSTIN BELLO**  
**PRIMARY EXAMINER**